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An  
Inaugural Dissertation  
On  
Hemoptysis

BY

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VIRGINIA.

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When we contemplate the delicate structure and nicely balanced arrangement of the Pulmonary organs, it cannot be matter of surprise that they should so often become the subject of disease.

These organs, which are situated in the cavity of the Thorax, have their blood vessels more numerous than those of any other part of the body of the same capacity. Their vessels are subdivided into trunks of the smallest size, and are spread out near the internal surfaces of the Bronchial cavities, and situated in a loose cellular texture, and covered by a delicate membrane only, so that, considering how readily and frequently these vessels are distended with blood, we may readily infer, why an Hemorrhage from the Lungs is next in frequency to that of the nose.

Hemoptysis as it is defined by Systematical Writers is a spitting of blood. It is arranged by

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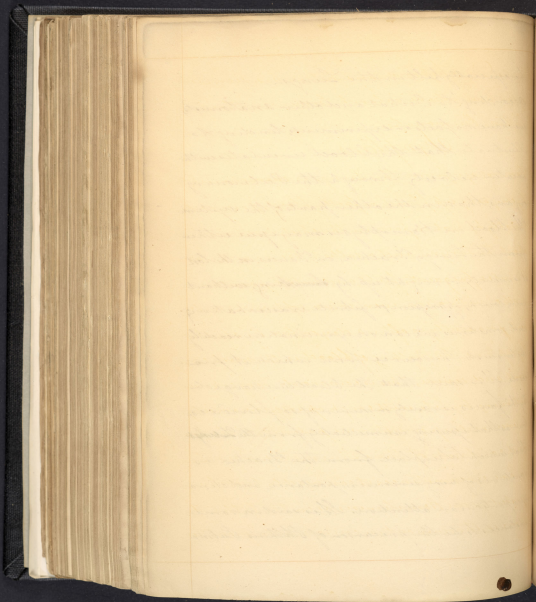


Cullen in the claps Pyrexia and order Hemorrhagic.  
Hemoptysis most frequently occurs from the age  
of sixteen to that of thirty years. The reason as-  
signed by Cullen, why Hemorrhage occurs at this  
particular stage of life, is that when the several  
parts of the system have attained their full grow-  
th, there is ~~an~~ equilibrium existing between the  
systems of the Aorta, and Pulmonary artery;  
or between the vessels of the Lungs, and those  
of the neck of the system, consequently, whatever  
has a tendency to destroy this nicety of balance,  
will be the cause of Hemorrhage from the Lungs.  
Cullen says that although the vessels of the Lungs  
are small in proportion to their office, yet they  
are commonly compensated by the greater  
velocity of the blood in them, yet if this  
velocity be not always adjusted to the establish-  
ed compensation, it is probable that a plethora  
in state of the whole system, will, ~~will~~ always

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be especially felt in the Lungs.

According to Bichat and other anatomists we have no facts or experiments tending to illustrate that the blood circulates with greater velocity through the Pulmonary organs, than in the other parts of the system. The blood in Hemoptysis may issue either from the Lungs, Trachea, or Fauces, in the last it is merely brought up by ~~hagging~~ <sup>hagging</sup> without pain, cough, oppression or febrile exacerbation; and sometimes we can on examination readily distinguish the source from which it proceeds. It is said that the blood discharged by the fauces is rarely or never of so florid a colour as that issuing immediately from the Lungs. That which takes place from the Trachea is sometimes of very serious importance, and demands particular attention. It is said in some instances to be the precursor of Phthisis Pulmonum.



malis. Dr. Chapman says that he has seen cases of this kind where catarrh terminated thus in Phthisis Pulmonalis.

### Symptoms

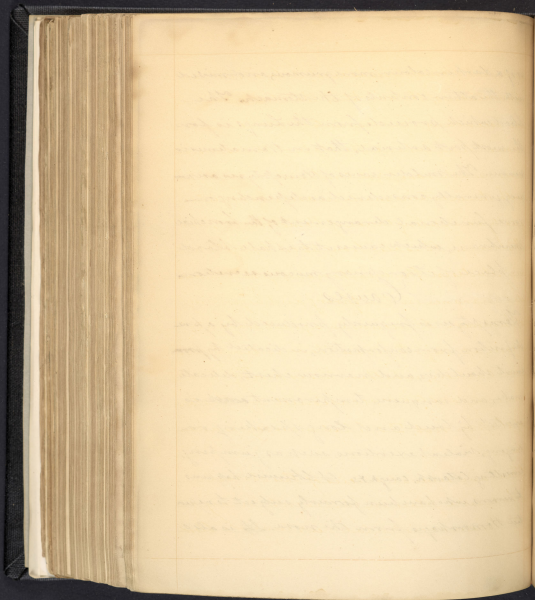
Hæmorrhage from the Lungs is characterised by coughing up florid, or frothy blood, preceded usually by heat or pain in the chest, irritation about the Larynx, and a saltish taste in the mouth, pulse frequent, full, and with a particular kind of vibration, even when soft and weak, and frequently is after a day or two. Of all these symptoms the spitting of blood is the most constant and serious, this is commonly, very copious returning by fits, with cough oppression, anxiety, intercostal neuralgia or extreme paleness of the face and coldness of the extremities. By attention to these circumstances it can readily be distinguished from Hematemesis, as in the latter the blood is thrown out in considerable quantities

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is of a darker colour, more grumous, and mixed with the other contents of the stomach. The blood which proceeds from the Lungs is for the most part arterial, that in Hematemesis venous. The milder cases of Hemoptysis are now very generally considered as depending on some functional derangement of the bronchial membrane, which causes it to exhale blood in place of its ordinary mucous secretion.

#### Causes

Hemoptysis is frequently produced by a pre-disposition from conformation, indicated by prominent shoulders, and narrow chest, delicate make, and sanguine temperament, and is excited by loud and long speaking or singing, violent exertions, such as jumping, wrestling, catarrh, cough &c. It likewise happens to persons, who have been formerly subject to repeated Hemorrhages from the nose. It is also





said that Hemoptysis is excited by a sudden  
diminution of the weight of the atmosphere,  
and ascending the summits of very lofty  
mountains, where the state of the atmosphere  
is very much varied, combined perhaps  
with the exertions made in ascending, is fre-  
quently an exciting cause of Hemorrhage from  
the Lungs. It is also brought on by sudden  
vicissitudes in the weather, and generally marks  
its appearance in the Spring and beginning  
of Summer. It occurs in a great majority  
of cases, at night when there is least con-  
focal action, whether this is owing to a  
pne disposition occasioned by the state  
of sleep or not, Dr Chapman says is unan-  
tain.

There are several species of this disease -  
which take place in different ways  
1<sup>st</sup> From accidental rupture of a blood

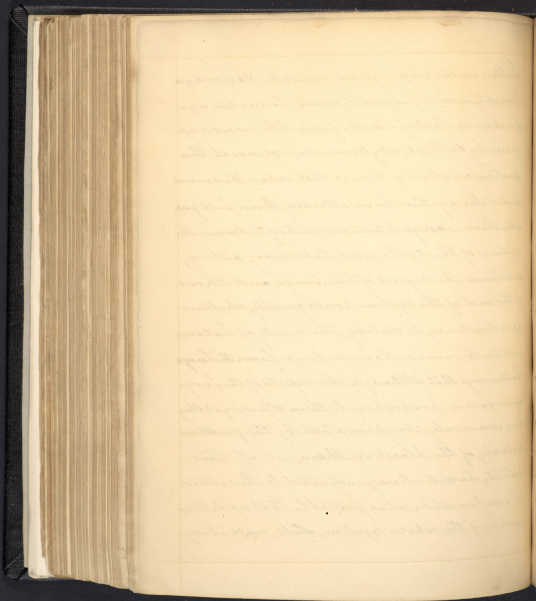
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sepel, as by a fall or wound. 2<sup>d</sup> From excessive  
inflammation as in Pleurisy, Pneumonia &c.  
3<sup>rd</sup> From the suppression of some accustomed  
evacuation as the menses, Hemorrhoids &c.  
4<sup>th</sup> From inordinate fullness of the vessels.  
5<sup>th</sup> From an abscess in the Lungs. 6<sup>th</sup> From  
tubercles which is almost always fatal termi-  
nating in P<sup>h</sup>thisis Pulmonalis -

### Pneumia

The first object in the cure of all diseases  
is to remove the remote causes so far as they  
still continue to operate -

Hemoptysis is divided by Cullen and other  
authors, into Active and Passive, and I shall  
speak first of the Active form. When it is  
connected with too high arterial <sup>action</sup> it is generally  
accompanied with a sense of weight and oppres-  
sion in the breast, a short and dry cough, &  
difficulty of respiration, with a full hard



pulse and chills succeeded by heat, cold extremities, lappitude &c. The chief indication here, is the reduction of arterial action and the most prompt and effectual means of fulfilling this indication is venesection, which should be carried so far as to make a decided impression on the pulse. Dr. Heberden is opposed to venesection. "How says he can the opening of one vessel, stop the flow from another vessel already opened?" But long experienced have established the utility of venesection in this stage of the disease.

After arterial action is sufficiently reduced or while the abstraction of blood is going on direct the use of common salt, in substance, in the dose of a tea or table spoon full every ten, fifteen or twenty minutes to be dissolved slowly in the mouth as it produces less nausea when taken



in this way. The modes of use and of this  
medicine is not very intelligible, but the  
generally received opinion is that it operates  
as an Astringent. The patient should be  
placed in a well ventilated apartment, his  
shoulders elevated, and absolute rest enjoined  
on him, all company should be excluded,  
and he should not be allowed to talk.  
His diet should be very abstemious, consist-  
ing of light soups and acidulated drinks  
such as Lemonade &c, his bowels should be kept  
in a solvable state, though no great advan-  
tage is claimed from active purging.  
Cooperating with the same end direct  
the use of cold applications to the chest,  
and particularly to the axilla, as there is  
no part of the body more susceptible of the  
impression of these applications.  
In cases of great emergency it was highly





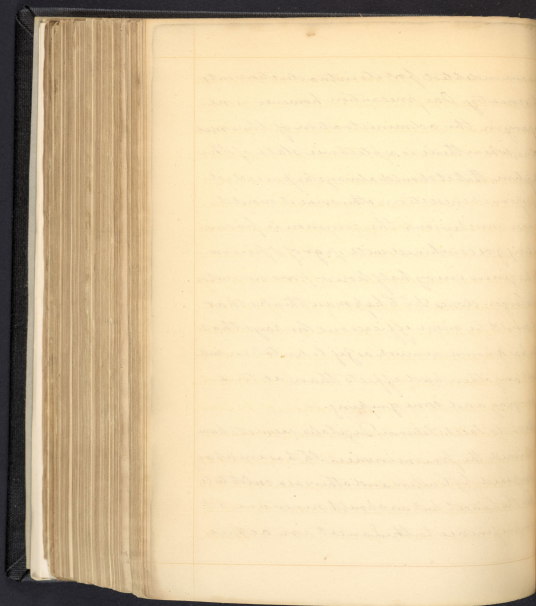
recommended by Dr Bond to envelope the whole body in a sheet wet with cold water or vinegar; the effusion of cold water on the body, or its immersion in the water has been also resorted to in desperate cases, but these applications should not be used when there is a pre disposition to pectoral complaints. Cold applications to the scrotum have also been strongly recommended. Should all the means above mentioned prove unsuccessful, the next remedy, which presents itself is Saccus Saturni: it has long ago been used in this disease, and was thought particularly adapted to Uterine Hemorrhage. It was considered by Heberden as a specific in Hemorrhage from the uterus, but was supposed to remain dormant for a long time from an apprehension of its delirious effects. Dr Barton



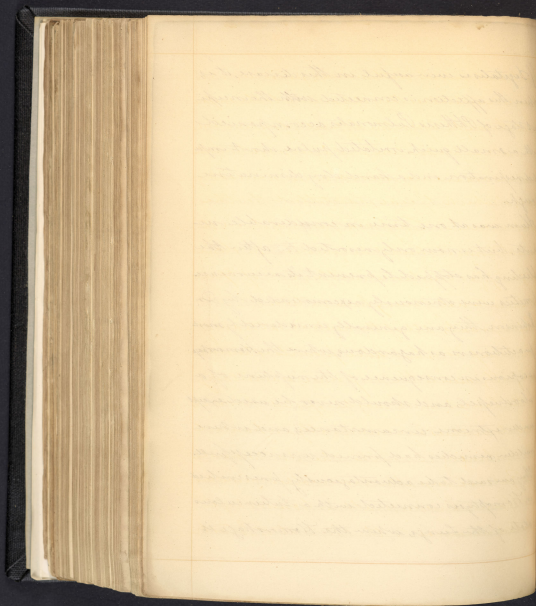
we are indebted for its introduction into  
this country. One precaution however is ne-  
cessary in the administration of this med-  
icine, when there is a plethoric state of the  
system, that it should always be preceded  
by copious venesection, otherwise it would  
prove mischievous; the common is from  
ij to iij grs combined with  $\frac{1}{2}$  gr of opium  
to be given every half hour from re nata.  
In larger doses Dr Chapman thinks that  
it would be more efficacious; he says that  
he has known as much as  $\text{ʒij}$  to be taken with-  
out any other bad effects than acrid  
purging and some griping. — Next to  
Sacc: Saturni, Digitalis seems to have  
claimed the preeminence. It has even been  
proposed by Cullen and others as a substitute  
for the Lancet, but we should never use it  
in preference to the Lancet in acute



Hæmoptysis. He who resorts to it as a substitute  
till for venesection, will not only sacrifice  
his own reputation, but will endanger  
the life of his patient. There is no article  
comprehended in the whole Materia  
Medica which should supersede the use  
of venesection in Hæmoptysis connected  
with high arterial action. At one time  
Digitalis was considered by Mead as pos-  
sessing powers approximating to a specific  
in Hemorrhage. It has been recommended  
by some as useful after a considerable loss  
of blood, when the pulse becomes soft, the skin  
cool, and many of the indications of Inflam-  
matory Diathesis have disappeared, when under  
these circumstances it would be unsafe to  
resort to direct depletion; even here it has  
been doubted, whether it is equal to the  
preparations of Lead, Spicacuanha or Squill.



If *Digitalis* is ever useful in this disease, it is when this affection is connected with the incipient stage of *Phthisis Pulmonalis*, accompanied with a small quick, irritated pulse, short impeded respiration, and a hard dry diminutive cough. ~~When the disease is advanced~~  
*Alum.* was at one time in considerable repute, but is now only resorted to after the bleeding has stopped to prevent its recurrence. Emetics were strenuously recommended by Dr. Robinson, they are generally considered by most practitioners as hazardous, where the Hemorrhage is copious in consequence of the rupture of a blood vessel, and should never be used except under extreme circumstances and where milder remedies had proved unsuccessful. They are said to be advantageous by prescribed in Hemoptysis connected with a tuberculous state of the Lungs, when the Hemorrhage is





slight and mixed with mucus, given in such  
these circumstances they determine to the surface,  
quiet the cough, lessen the difficulty of respiration,  
promote expectoration, and equalize excitement.  
Emetics are in very common use in nauseating  
doses, of which Ipecac is entitled to the  
preference. Dr. Chapman speaks of it in the  
highest terms, it should be given in the dose  
or ʒj or ʒss combined with ʒss of Opium  
at the interval of every hour or two.

Refrigerants, all of the neutral salts are of  
this description, but Nitre from its effluvia  
unjustly merits the preference; as auxiliary  
to the Linctus, much may be expected from its  
and its virtues are considerably enhanced  
by combining it with the Antispasmodics.  
Dr. Zuccarini says after various other remedies  
had proved unsuccessfull in Hemorrhage  
he had recourse to the Nitrat. of Potash

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and reports that it had been followed by continued success, after a small bleeding which he says was not always necessary, he mixed nitre in the quantity of from  $\frac{1}{2}$  to  $\frac{3}{4}$  of drachms in an ounce of Gum water, two or three tablespoons full of which were taken every hour. —

A case of violent Hemoptysis came under my observation last summer, in which an ounce or more of the Nitrat. of Potash was taken at once, without any other inconvenience than active vomiting and copious purging. The subject of this disease was a young man of Phlegmatic habit and predisposed to the disease from conformation, having received a severe blow upon his chest by a fall a violent Hemorrhage almost immediately issued from his Lungs: being present at the time the accident occurred X



Ibled him copiously and directed the use  
of common salt and cold applications to be  
applied to the chest and axillae in a short  
time the Hemorrhage ceased, but there still  
remained a little of citoniment in the system  
and a tendency of the Hemorrhage to return,  
the vitæ combined with a small portion of  
Pot. Emetic. was prescribed to prevent its  
recurrence, however in a very short time  
a most appalling discharge of blood burst  
forth again, his mother who was present  
being very much alarmed, ran to a table  
on which there was a paper containing  
an ounce or more of the Vitæ of Potash.  
dissolved it in a glass of water and gave  
him the whole at once, being unconscious  
of the deleterious effects of the medicine  
his stomach being very irritable, vomiting  
was immediately excited and the Hemorrhage



completely anæsthetic. —

Mineral Acids. These are more astringent than the Neutral salts, and may be used in the commencement of the disease, however they should not be used in preference to remedies of more decided efficacy, which have been spoken of above. The Sulphuric Acid, is the best and the dose 15 or 20 drops every two or three hours. The Etip. or. butyl. answers very well. Local Applications. Cold has been already mentioned, the caustic applications are of decided utility in this disease, and particularly where it assumes a chronic form, much has been said of the proper place for their application, but the majority of Physicians is of the decided opinion that they ought to be put immediately on the chest, as the efficacy of such applications is in





proportion to their proximity to the part  
affected; but when venous action is wished to be  
affected, or the concatenation of morbid action  
to be broken up, they should be applied to the  
extremities.

Capive Hemorrhage or Hemorrhage of feeble  
Action. The first object here having aside  
all depleting measures, is to employ such as  
possess the power of imparting tone to the system  
and the remedies which we should employ  
to fulfil this indication, are Wines, —

The Peninsular Wine sustains the highest re-  
putation. In Russia spoke with a degree of  
enthusiasm of it. It is commonly prescrib-  
ed alone, but is best counterpoised with  
chalybeates, as the mineral and sulphurates  
of Iron. The vegetable astringents have  
been used, such as kino, catechu, &c  
but they have nearly fallen into disuse



in Hemoptysis, but are, useful in other  
Hemorrhages.

When utility it is said is derived from the  
Mineral Acids, the Sulphuric is best, but  
when this disease is connected with a scro-  
fulous Diathesis, the Nitric acid is to be  
preferred. These remedies may be aided  
by exercise, an invigorating Diet and pro-  
per Drink. Moderate exercise on horse  
back is the mode in which it is generally  
preferred, it should be taken in fair  
weather and the patient not to fatigue him-  
self. His diet should be light and nu-  
tritious. Porter is the best drink, it  
imparts tone and astringency to the bleed-  
ing vessels.

When Hemoptysis is connected with a con-  
stitutional peculiarity, it leaves behind it  
a very great tendency to recurrence, unless



these circumstances, the patient should be put under a strict prophylactic plan, he should avoid every cause which has a tendency to increase the impetus of the circulation, such as undue exercise and improper diet; he should observe the greatest caution in exposing himself to cold, as nothing tends more to produce it than Catarrh. When a predisposition to phthisis exists, particular attention to the state of the pulse and chest should be observed; should excitement in the circulation, and pain in the chest supervene, small bleedings, next low diet, nitre, and the whole of the Antiphlogistics <sup>plan</sup> should be immediately resorted to. When the local affections are urgent much good has been derived from perpetual Blisters to the chest. When the disease is very obstinate a mercurial course has been recommended; It is said however



that cases will sometimes occur which will  
resist all our medicines, here as a last  
resort advise the patient to remove to a  
warmer climate and by a sea voyage—

